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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/960,036 | 09/20/2001 | John W. Doering | | 4045 |

7590 08/22/2003
JOHN W. DOERING
14332 KIPLING LANE
TUSTIN, CA 92780-5743

EXAMINER

ESPLIN, DAVID B

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| ART UNIT | PAPER NUMBER |
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DATE MAILED: 08/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/960,036 | DOERING, JOHN W. | |
| | Examiner | Art Unit | |
| | D. Ben Esplin | 2851 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 7-9, and 11-16 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,184,217 to Doering.

FIG. 1 of Doering shows a system for automatically inspecting a workpiece (workpiece 14) for the perimeter and holes formed therein, said system including: an inspection table (inspection table 12) having a transparent glass surface (glass 18) upon which the workpiece is to be laid; an etched glass calibration scale (scale 20) located at the edge of the glass surface of the table for sensor scale calibration; a carriage (carriage 22) mounted on rails (rails 24) on the table, which is movable in a first direction; containing a light source (fluorescent lamp located in upper shelf 26, see col. 4 lines 1 and 2), and an optical sensor module (module 30), which is movable in a second direction perpendicular to the first; a CCD camera with an imaging sensor consisting of plurality of CCD photo sensing elements (imaging sensor element 70 of FIG. 2), and an optical configuration situated within said optical sensor module (see FIG. 4); a computer workstation interfacing with motion control positioning subsystems (micro computer 150), providing computer controlled two-axis motion control positioning of the carriage in one direction and the optical sensor module in a second direction perpendicular to the first; a video edge processor board situated within said computer providing the means for synchronizing the

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CCD camera and the processing of edge address data computer processing (see FIG. 4); wherein the optics within the optical sensor module are configured to align the viewing angle of each photo-sensing element of the multiple element sensors so that they are perpendicular to and focused at or above the surface of the transparent table top (see col. 4 lines 63-66). The inspection system of Doering also includes a motor (drive mechanism 60) for driving the carriage on the rails that uses optical encoding position feedback in a closed loop servo configuration (see col. 4 lines 24-45). Further, Doering teaches that the CCD camera should include a plurality of rows and columns, and is a time delay integration type (col. 5 lines 16-30).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6, 10, and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doering as applied to claims 1-5, 7-9, and 11-16 above, and further in view of U.S. Patent No. 5,969,851 to Clark et al.

Doering, applied as above, uses a curved mirror 78 to condense light from the light source to a focal point, and an enlarging lens 72 placed at the focal point of the mirror 78 to focus light on the optical sensor module (see FIG. 2), and not a plano-convex lens with an enlarging lens placed at the focal point of the lens. However, the interchangeability of reflective elements, like a curved mirror, and refractive elements, like a plano-convex lens, for collecting

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light onto a sensor was taught by Clark to be well known in the art (see col. 6 lines 28-31).

Therefore, it would have been obvious to substitute a refractive element, like a plano-convex lens, for the reflective element shown in Doering for focusing light on the optical sensor module.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 4,360,274 to Norton-Wayne discloses a system for automatically inspecting a workpiece that includes a carriage, light source, and optical sensor module.

U.S. Patent No. 4,711,579 to Wilkinson discloses a system for automatically inspecting a workpiece including a carriage mounted on rails, a clear glass surface, a light source, and an optical sensor module.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to D. Ben Esplin whose telephone number is (703) 305-4022. The examiner can normally be reached on Mon.-Fri. (8am-4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russell E. Adams can be reached on (703) 308-2847. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

DBE
DBE

Russell E. Adams
RUSSELL E. ADAMS
SUPERVISORY ENGINEER
TECHNOLOGY CENTER